

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Johannes De Jonge
Application No.: 10/561,688
Filed: May 9, 2006
For: SWITCH DOME DEVICE

Confirmation No.: 9761
Group Art Unit: 2832
Examiner: Lisa Nhung Klaus

Date: June 27, 2008

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

<p align="center">CERTIFICATION OF TRANSMISSION</p> <p>I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on June 27, 2008.</p> <p>Signature: <u>Kirsten S. Carlos</u> Kirsten S. Carlos</p>
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APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. §41.37

Sir:

This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" filed March 24, 2008 and the "Notice of Panel Decision from Pre-Appeal Brief Review" mailed May 27, 2008.

Real Party In Interest

The real party in interest is assignee Sony Ericsson Mobile Communications AB, Lund, Sweden.

Related Appeals and Interferences

Appellant is aware of no appeals or interferences that would be affected by the present appeal.

Status of Claims

Appellant appeals the final rejection of Claims 1 - 9 as set forth in the Final Office Action of December 28, 2007 (hereinafter "Final Action"). Claims 1 - 9 stand rejected. Appellant submits that the claims involved in the appeal are Claims 1 - 9 as a reversal of the rejection of independent Claims 1, 4, and 7 is requested and a reversal of the rejection of dependent Claims 2, 3, 5, 6, 8, and 9 is also requested based, at least, on the reversal of the rejection of independent Claims 1, 4, and 7. The claims involved in the appeal as included in Appellant's response to the Office Action of July 31, 2007 are attached hereto as Appendix A.

Status of Amendments

No amendment has been filed in the present case in response to the Final Action.

Summary of Claimed Subject Matter

Independent Claim 1 is directed to a switch dome device for operating functions in electronic equipment. The device comprises a support structure, a plurality of switch domes (switch domes 4 of FIGS. 5A and 5B; Specification, p. 7 – 9) mounted in a circular pattern on the support structure, and an AND circuit (AND-circuit 9 of FIG. 5A; Specification, p. 7 – 9). Outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function (Specification, p. 7, lines 19 – 22; p. 8, lines 20 – 21).

Independent Claim 4 is directed to an input device for operating functions in electronic equipment comprising a support structure, a plurality of switch domes mounted in a circular pattern on the support structure (switch domes 4 of FIGS. 5A and 5B; Specification, p. 7 – 9), a switch dome actuator (rocker key 2 of FIG. 5B; Specification, p. 7 – 9) for actuating ones of the plurality of switch domes, and an AND circuit (AND-circuit 9 of FIG. 5A; Specification, p. 7 – 9). Outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function (Specification, p. 7, lines 19 – 22; p. 8, lines 20 – 21).

Independent Claim 7 is directed to electronic equipment comprising an input device for operating functions of the electronic equipment. The input device comprises a support structure, a plurality of switch domes mounted in a circular pattern on the support structure

(switch domes 4 of FIGS. 5A and 5B; Specification, p. 7 – 9), a switch dome actuator (rocker key 2 of FIG. 5B; Specification, p. 7 – 9) for actuating ones of the plurality of switch domes, and an AND circuit (AND-circuit 9 of FIG. 5A; Specification, p. 7 – 9). Outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function (Specification, p. 7, lines 19 – 22; p. 8, lines 20 – 21).

Grounds of Rejection to be Reviewed on Appeal

Claims 1 - 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over prior art cited in the Specification (APA) in view of U. S. Patent No. 6,781,076 to Takiguchi et al. (hereinafter "Takiguchi"). (Final Action, page 2).

Claims 8 – 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the APA in view of U. S. Patent Publication No. 2006/0143124 to Kennedy (hereinafter "Kennedy"). (Final Action, page 4).

Argument

I. Introduction to 35 U.S.C. §103 Analysis

A determination under §103 that an invention would have been obvious to someone of ordinary skill in the art is a conclusion of law based on fact. *Panduit Corp. v. Dennison Mfg. Co.* 810 F.2d 1593, 1 U.S.P.Q.2d 1593 (Fed. Cir. 1987), *cert. denied*, 107 S.Ct. 2187. After the involved facts are determined, the decision maker must then make the legal determination of whether the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was unknown, and just before it was made. *Id.* at 1596. The United States Patent and Trademark Office (USPTO) has the initial burden under §103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest all the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. A patent composed of several elements is not proved

obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U. S. 1, 15 (2007). A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 12. If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at 13. A Court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 13. When it is necessary for a Court to look at interrelated teachings of multiple patents, the Court must determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *Id.* at 14.

Appellant respectfully submit that the pending independent claims are patentable over the cited reference for at least the reason that the cited reference does not disclose or suggest each of the recitations of the independent claims. The patentability of the pending claims is discussed in detail hereinafter.

A. Claims 1, 4, and 7 Are Patentable

Independent Claims 1, 4, and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the APA in view of U. S. Patent No. 6,781,076 to Takiguchi et al. (hereinafter "Takiguchi"). (Final Action, page 2). Independent Claim 1 is directed to a switch dome device for operating functions in electronic equipment. The device comprises a plurality of switch domes and an AND circuit and recites, in part:

...
wherein outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to **only** two adjacent ones of the plurality of switch domes actuated at a time for operating a function. (Emphasis added).

Independent Claims 4 and 7 include similar recitations. As explained on page 8, lines 20 and 21 of the Specification, no response is provided if one of the plurality of switch domes is actuated. A response is provided **only** if two adjacent ones of the plurality of switch domes are actuated at the same time according to the independent claims.

The Final Action acknowledges that the APA does not disclose the recited AND circuit, but alleges that Takiguchi provides the missing teachings at col. 12, lines 35 – 51. (Final Action, pages 2 - 3). In sharp contrast to the recitations of independent Claims 1, 4, and 7, however, the passage cited from Takiguchi explains that an AND circuit may be used in a device with four switch elements such that eight functions can be selected corresponding to the actuation of the four switch elements individually and the actuation of adjacent pairs of the switch elements. (Takiguchi, col. 12, lines 38 – 43). Thus, Takiguchi teaches that a response is provided even if a single switch element is actuated, not only if two adjacent switch elements are actuated.

In response to this analysis, the Final Action states: "...Takiguchi clearly describes the functions only being performed when two domes adjacent with one another are actuated simultaneously (see col. 12, lines 27 - 51)." (Final Action, page 4). Respectfully, this is not true. Takiguchi states at col. 12, lines 27 - 42:

Alternatively, in the four-directional multi-way switch of the above embodiment, it is also possible to arrange the circuit construction such that when adjacent two switch elements (for example, the switch elements 41 and 42) are turned on or off together by depressing one corner of the top wall 12 of the operation knob 1 to swing it downwardly, **another function is selected, which is different from the functions selected when each of the adjacent two switch elements alone is turned on or off.** For example, it can be arranged that an AND circuit for adjacent two switch elements is provided, and when a signal is outputted from the AND circuit, another function is selected. In such case, there is obtained an advantage that the four-directional multi-way switch of the above embodiment can be extended up to the eight-directional multi-way switch without adding any projections and corresponding switch elements. (Emphasis added).

As highlighted above, Takiguchi teaches that respective functions are provided for turning on/off each switch element individually and a different function from one of those provided from individual actuation of the switch elements is provided when adjacent switch elements are activated together. Appellant submits, therefore, that the rejection of the independent claims under Section 103 is clearly erroneous for at least the reason that the combination of cited references does not disclose or suggest configuring a plurality of switch domes such that a response is output **only** if two adjacent ones of the plurality of switch domes are actuated at the same time.

For at least the foregoing reasons, Appellant respectfully submits that independent Claims 1, 4, and 7 are patentable over the APA and Takiguchi and that dependent Claims 2, 3, 5, 6, 8, and 9 are patentable at least by virtue of their depending from an allowable claim. Accordingly, Appellant respectfully request that the rejection of independent Claims 1, 4, and 7 be reversed based on the failure of the Examiner to establish a prima facie case of obviousness under 35 U.S.C. §103 for at least these reasons.

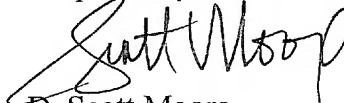
B. Claims 8 and 9 Are Patentable

Dependent Claims 8 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over the APA in view of Kennedy. (Final Action, page 4). Dependent Claims 8 and 9 depend from independent Claim 7, which Appellant submits is patentable for at least the reasons discussed above in Section IA. Appellant submits that dependent Claims 8 and 9 are patentable over the cited references at least by virtue of their depending an allowable claim. *Ex parte Ligh*, 159 U.S.P.Q. (BNA) 61, 62 (Bd. App. 1967). Accordingly, Appellant respectfully requests that the rejection of Claims 8 and 9 be reversed based on the failure of the Examiner to establish a prima facie case of obviousness under 35 U.S.C. §103 for at least these reasons.

II. Conclusion

In summary, Appellant respectfully submits that, with respect to Claims 1 - 9, the cited references do not teach all of the recitations of the claims. Accordingly, Appellant respectfully requests reversal of the rejection of Claims 1 - 9 based on the cited references.

Respectfully submitted,


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APPENDIX A – CLAIMS APPENDIX

1. (Previously Presented) A switch dome device for operating functions in electronic equipment, the device comprising:
 - a support structure;
 - a plurality of switch domes mounted in a circular pattern on the support structure; and
 - an AND circuit;wherein outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function.
2. (Previously Presented) A switch dome device according to claim 1, wherein the switch domes are about equally distributed around the circular pattern with about the same distance to the centre of the circular pattern.
3. (Previously Presented) A switch dome device according to claim 1, wherein the plurality of switch domes comprises eight switch domes.
4. (Previously Presented) An input device for operating functions in electronic equipment, comprising:
 - a support structure;
 - a plurality of switch domes mounted in a circular pattern on the support structure;
 - a switch dome actuator for actuating ones of the plurality of switch domes; and
 - an AND circuit;wherein outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function.
5. (Previously Presented) An input device according to claim 4, wherein the actuator is a rocker key provided with actuator bosses for actuating switch domes.

6. (Previously Presented) An input device according to claim 4, wherein the actuator is a joystick.

7. (Previously Presented) Electronic equipment, comprising:
an input device for operating functions of the electronic equipment, comprising:
a support structure;
a plurality of switch domes mounted in a circular pattern on the support structure;
a switch dome actuator for actuating ones of the plurality of switch domes; and
an AND circuit;
wherein outputs of adjacent switch domes are connected to inputs of the AND circuit and the switch dome device is responsive to only two adjacent ones of the plurality of switch domes actuated at a time for operating a function.

8. (Previously Presented) Electronic equipment according to claim 7, further comprising:
a display;
wherein the switch domes are positioned on the support structure on 22,5/67,5/112,5/157,5/ 202,5/247,5/292,5/337,5° positions around the circular pattern with respect to the orientation of the display held in a position for normal operation by a user.

9. (Previously Presented) Electronic equipment according to claim 7, wherein the electronic equipment is a mobile radio terminal.

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APPENDIX B – EVIDENCE APPENDIX

None.

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APPENDIX C – RELATED PROCEEDINGS APPENDIX

None.